

**EOSDIS IV&V
Monthly Status Report
For the Period 1/1/97 to 1/31/97
(Deliverable 0201D.5)**

February 14, 1997

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1. PERFORMANCE INFORMATION

1.1 Contract Organization Chart

Exhibit 1-1 illustrates the current organizational structure of the EOSDIS IV&V team. The approximate number of personnel assigned to each technical task during January is also indicated.

1.2 Programmatic Information

a) Key Recent Accomplishments

- Met with Rick Obenschain on 1/14/97 to continue discussions on additional tasking for IV&V.
- Provided Performance Evaluation Board (PEB) with a self-assessment on our contract performance for the previous period (7/96 through 12/96).
- Met with ESDIS Management on 1/22/97 to discuss the Performance Based Contracting (PBC) initiative. During this meeting, it was determined that Intermetrics should speak to Allied Signal regarding the Service Level Agreements used on the CNMOS contract. If feasible, the EOSDIS IV&V contract could be modeled after the CNMOS contract.
- Submitted Biweekly Issue Summary to ESDIS Management on 1/6/97. (Due to the Project's current reorganization and replanning efforts, subsequent e-mail summaries have temporarily been suspended with COTR approval.)
- Continued on-going training of contract personnel. Training in January included UNIX system and Microsoft Project training at the Goddard Learning Center; and computer-based training in C++ and Object Oriented Principles (OOP).
- Ensured on-time delivery of contract deliverables as indicated in Exhibit 1-2.

b) Planned Activities

- Meet with Rick Obenschain and ESDIS Management to discuss the roles and responsibilities of each person supporting the EOSDIS IV&V contract. This meeting is scheduled for 2/11/97 at the Intermetrics Greenbelt facility.

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- Develop a formal transition plan to increase IV&V staffing at the Fairmont WV facility. Meet with ESDIS Management and Financial personnel to negotiate terms and conditions.

Exhibit 1-1: Org Chart (Landscape)

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Expected Date Due	Dependency	Milestone/Deliverable	Task #	Status*	Comments
1/2/97		EGS I&T Program Test Matrix (Updates)	11	C	Submitted on time.
1/6/97		Biweekly Issues Summary	1	C	Submitted on time.
1/7/97		CCR Impact Analysis Forms	8	C	Submitted on time.
1/14/97		ICWG Open Interface Issues Summary Report	8	C	Submitted on time.
1/15/97		Monthly Status Report	2	C	Submitted on time.
1/21/97		RTM Qualitative Assessment TAM	8	C	Submitted on time.
1/31/97		Thread Analysis TAM (Modeling)	8	C	Submitted on time.
2/11/97		Monthly Metrics Reports	8	IP	
2/17/97		EOSDIS Security Policy Guidelines (Update) - Draft	8	IP	
2/28/97		ASTER-to-EOSDIS Interface Evaluation TAM	8	IP	
2/28/97		Requirements Traceability Using BONEs and RTM Feasibility Analysis TAM	8	O	
2/97	RTM release + 2 weeks	RTM Quantitative Assessment TAM	8	O	
2/97	RTM release + 4 weeks	RTM Qualitative Assessment TAM	8	O	
2/97	One week prior to CCB or ICWG meeting	CCR Impact Analysis Forms	8	O	
2/97	At monthly ICWG	ICWG Open Interface Issues Summary Report	8	O	
3/97	RTM + 2 weeks and/or end of month	Monthly Metrics Reports	8	O	
2/97	Monthly	EGS I&T Program Test Matrix (Updates)	11	O	

* C = Completed, IP = In Process, O = Open, D = Delayed, CX = Canceled

EXHIBIT 1-2: Status of Milestones/Deliverables

- Support the efforts to develop an MOU between Goddard and the Fairmont facility, and to redraft SOWs for Tasks 8, 1, and 2.
- Continue supporting the NASA initiative on Performance Based Contracting (PBC).
- Continue personnel training initiatives.

1.3 Technical Task Information

Task # 4: IV&V Infrastructure and Tool Development

a) Task Accomplishments

- Released TMDB Version 3.7 with requested session planning, result capture, and reporting changes.
- Set up and configured three new Test Buddy laptops with the latest TMDB and Session versions to support FOS I&T efforts.
- Copied EGS I&T Version 1 test information to Version 2 in the TMDB for SDPS and CSMS test packages. This was required as a result of the stop work order issued to the development contractor for ECS SCDO Release A.
- Extended the Confidence Test Program Electronic File Cabinet (CTP-EFC) browser to include additional session reporting capabilities.
- Released Automated Requirements Database (ARDB) Version 3.5 with additional metrics reporting capabilities.
- Installed ECS RTM exports that were received on 1/17 and 1/25. Produced metrics reports relative to the new baselines.
- Continued M&O activities for the Project Issue Tracking System (PITS), Automated Requirements Database (ARDB), Test Management Database (TMDB), and contract Homepages.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- EWA performance has been very good. Specific activities included maintaining and operating the Test Management Database (TMDB).

d) Planned Activities

- Continue to reconfigure IV&V databases, homepages, and tools as necessary to support ECS Release B IV&V analysis and I&T activities.

- Release Test Verification Database (TVDB) Version 2.0, which will include additional reporting and metrics capabilities.
- Release Test Management Database (TMDB) Version 4.0, which will include cut/copy/paste functionality test procedure tables and additional requirement allocation capabilities within the session result capture area.
- Continue maintaining/updating ARDB, PITS, TVDB, and TMDB client/server tools, as well as contract Homepages.

Task # 7: Programmatic and Process Analysis

a) Task Accomplishments

- Completed streamlining of Ada/GUI interface.
- Completed evaluation of ObjectAda on Windows NT. The transition to ObjectAda is not advisable at this time.
- Reviewed design chapter from Dr. Barkstrom entitled, "From Data Products to Granule Versions."
- Archived to tape the Sun and Windows NT versions of the CCM. Existing documentation and release notes also archived. Activities on this task are now suspended until further direction is received from ESDIS.

b) Issues/Concerns

- None.

c) Subcontractor Performance

- Not Applicable.

d) Planned Activities

- None.

Task # 8: Development Life Cycle Analysis

a) Task Accomplishments

Planning and Rapid Analysis Team:

- Conducted a quantitative analysis of the 1/17 and 1/25 RTM Repository.

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- Started preparing a Monthly Metrics Report/RTM analysis report for ECS development activities for January 1997. This report will be delivered on 2/11/97.
- Assisted Hughes analysts in correcting the 1/17/97 RTM Repository.
- Obtained access to Rational Rose to be used for design analysis.

System and Interfaces Analysis Team:

- Continued developing ASTER Interface Analysis TAM. Held cross task meeting with Task 11 personnel to exchange information on Aster.
- Performed quantitative analysis of the traces from Level 3 to RBR to Level 4 in the 12/20/96 RTM requirements baseline. Provided analysis results for 1/7/97 Monthly Metrics Report.
- Delivered TAM on qualitative analysis of 12/20/96 version of ECS RTM requirements baseline.
- Began quantitative analysis of 1/27/97 RTM baseline.
- Completed analysis of the IRD between ECS and the Data Assimilation System (DAS) and documented results in a TAM.
- Participated in ICWG meetings and provided IV&V review comments on interface documents.
- Delivered full interface issue summary report and metrics on 1/14/97 at ICWG status meeting.
- Prepared and submitted Impact Analysis Reports for the following CCRs:

505-01-41-127	Update ECS F&PR Ancillary Data Rqmts
505-41-35-002	Dispositions, Kerberos, Metadata, Versioning, Data Flow - ECS-TSDIS ICD
505-10-36-001	Baseline the MSD for Landsat 7 & Level 1 Processing
505-01-10-007	Level 1 Changes for ADEOS II Instruments (SeaWinds and AMSR)
505-01-10-009	Emergency S-Band Support for EOS Missions
505-01-10-010	PM-1 Instrument Complement to Level 1
505-01-35-066	EDOS Development Team Clarifications to EDOS-EGS ICD
505-41-15-002	Delete Housekeeping Data from AM-1 IRD
505-01-41-134	ECS Support of Landsat & Level 1 Processing
505-01-41-135	Implement ECS Stop Work Order
505-42-01-007	B/L ERSDAC's ASTER IST IRD
505-42-01-006	B/L ERSDAC's ASTER IST ICD
505-42-01-002	Incorporate TCP/IP communications into NCCDS-MOCs ICD

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- Started analysis on the following CCRs:

505-01-41-135	Implement ECS Stop Work Order
505-01-10-008	Landsat 7 Level 1 Changes to the EOS Project Plan
505-41-33-004	IV&V, MODIS, and ECS Changes to the SCF ICD
505-01-35-067	EDOS-NOAA ICD Data Delivery Clarification
505-01-35-068	EDOS-EBnet IRD Clean up
505-41-47-002	Add PAN Format to I/F Documentation
505-41-32-004	Baseline the Landsat 7 IGS ICD

System Modeling Analysis Team:

- Delivered TAM on the use of modeling and simulation to support IV&V. This TAM recommended using tools such as SLATE and RDD-100 to link requirements analysis, traceability, functional modeling, scenario development, and computer simulation. An outline for how RTM, TMDB, and BONEs could be used was also presented.
- Continued developing the IV&V Modeling and Simulation web page. Implemented restricted access area for TAMs and TIMs that address the Hughes models.
- Began attending EDOS modeling meetings to continue fostering communications with the developer.
- Provided inputs to Hughes on their "capacity planning" model development.
- Obtained the latest version of the "End-to-End" and "Menasce" models.

System Security Analysis Team:

- Developed annotated outline for revisions to the EOSDIS Security Policy and Guidelines. Discussed revisions with COTR and began drafting the document updates.
- Provided CSC with remaining updates to the EOSDIS Security Requirements to Test Cases Matrix (i.e., provide EDOS updates).
- Participated in EOSDIS Security Working Group (ESWG) meeting held on 1/16/97.
- Began reviewing security-related test case procedures for ECS Release B I&T in support of the test witnessing activity.
- Continued working to resolve security issues identified in the Project Issue Tracking System (PITS).

Test Analysis and Witnessing Team:

- Initiated major replanning of Test Witnessing team activities to accommodate ESDIS redirection of the ECS development. Allocated areas of responsibility to team members focusing on Release B functionality.
- Began reviewing Release B Integration and Test procedures as well as Release B Acceptance Test procedures.
- Used 1/25/97 RTM data to update table that maps RBR to Test Cases to L4 requirements for Release B. This table will be used to create L4 satisfaction metrics and relate them to functionality compliance.

b) Issues/Concerns

- The Task 8 SOW for the previous period was extended to serve as the SOW for the current period. As such, no new deliverables have been officially approved by NASA. We are working under the assumption that the deliverables enumerated in the draft SOW originally intended for the current period are, in fact, the deliverables that NASA wants IV&V to produce.
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- SES is leading the TAW Team. Their technical staff also supports other integrated analysis teams within Task 8. Their performance has been very good.

d) Planned Activities

Planning and Rapid Analysis Team:

- Compare the testbed implementation plan with the developer's existing Detailed Logic Network (DLN) activity status, when available.
- Update DLN activity Start and Forecast Completion dates, and generate updated metrics using these dates.
- Assess current testbed implementation plan when available.
- Assess requirement mappings to Release B design and test cases, if available in the next RTM..
- Participate in test witnessing activities as necessary.
- Prepare the monthly Metrics Report to be delivered 2/11/97.
- Develop initial analysis of the Release B design using Rational Rose.

System and Interfaces Analysis Team:

- Complete TAM on Aster interface.
- Complete impact analysis for identified CCRs as well as others received during February.
- Complete quantitative analysis of requirements traces in 1/27/97 RTM requirements baseline and provide metrics for Metrics Report.
- Complete qualitative analysis of requirements traces in 1/27/97 RTM requirements baseline and deliver TAM.
- Continue data entry into PITS ICWG repository, and present at next ICWG status meeting scheduled for 2/18/97.

System Modeling Analysis Team:

- Experiment with how to subdivide the ECS BONEs model into a series of hierarchical models, each level feeding the level above it. The idea is to use lower level models to create "response curves" or statistical distributions that can be used to represent processing times at higher levels. The result should yield substantially faster turnaround for simulation experiments.

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- Conduct a feasibility study in which a test thread will be traced through a model of the system. The BONEs Project Editor will provide the interfaces to RTM and TMDB to demonstrate how requirements and test cases can be traced to specific system components.
- Continue supporting the ECS contractor by attending bi-weekly meetings to review plans and procedures for future modeling and simulation work.
- Attend EDOS modeling meetings to continue fostering communications among EOS modeling groups.
- Expand Modeling and Simulation web site to promote synergy among NASA modeling and simulation teams.

System Security Analysis Team:

- Deliver a draft version of the revised EOSDIS Security Policy and Guidelines document to COTR.
- Begin developing expertise with the SafeSuite tool to better support security testing during EGS I&T.
- Continue reviewing security-related test case procedures for ECS Release B I&T in support of the test witnessing activity.
- Continued working to resolve security issues identified in the Project Issue Tracking System (PITS).

Test Analysis and Witnessing Team:

- Perform qualitative analysis of redlined I&T AT Test Procedures and provide ECS I&T and ESDIS with analysis prior to demos, if possible.
- Witness test demos and provide ECS I&T and ESDIS with preliminary analysis and comments via e-mail as soon as possible.
- Create Test Witnessing Report.
- Attend the I&T status meetings and ESDIS Test Coordination meetings.

Task # 11: EOS Ground System Integration and Test

a) Task Accomplishments

EGS Version 1 Test Planning:

- Attended Landsat 7 MOR and revised test planning. Initiated contingency planning and working with MRTT to revise Landsat 7 EGS I&T plan.
- Attended TRMM LaRC, GSFC TSS CDRs and revised EGS V1 TRMM Science Data Processing test plan. Initiated TRMM Mission (TSS) test planning.
- Working with NYMA/GSFC DAAC to coordinate/streamline test activities.

Integration Schedule Tracking and Analysis:

- Revised FOS Version 1 detailed schedule to accommodate ECT1, FOS/EDOS/ETS patches/testing.
- Incorporated Landsat 7 contingency and TSS into schedule planning.

Integration Test Tool Definition and Plans:

- Collected monthly test package metrics.
- Revised Test Management Data Base (TMDB) test tool.
- Planned FOS Version 1 test sessions and collected test results.

EGS Confidence Test Planning:

- Supported I&T Integrated Product Team and TICTOC activities.
- Delivered updated EGS I&T Program Test Matrix 1114B (monthly).
- Supported ECT 1 planning.
- Coordinated with ESDIS Test Data Set working group.
- Imported and reviewed revised ECS Requirements baselines (1/17/97, 1/24/97).
- Identified Version 1 test packages to support TRMM.

EGS Version 1 Integration and Test:

- Conducted dry runs on remaining FSO IPT Version 1 CTPs based on EOC facility and component system availability.

- Completed scheduled portion of formal FSO IPT Version 1 Confidence Test Package execution.
- Participated in ECT 1 execution.

b) Issues/Concerns

- We need a clear definition of B.0 vs. B.1 RBR to L4 requirements for version 2 test planning.
- We need to continue developing relationships with our joint test partners. This is especially important when trying to schedule resources.

c) Subcontractor Performance

- Subcontractor performance has been very good.

d) Planned Activities

- Complete formal test execution of FSO Version 1 confidence tests by 2/28/97.
- Support ECT 1 EOC Compatibility Test 2 planning. Kick-off target is 2/13/97.
- Meet Science IPT confidence test plan maturity target of 2/15/97.
- Work on TSS packages and test plan white paper.
- Support the planning of the ASTER interface meeting to be held off-site in Japan.
- Identify EGS I&T test data plan target dates, working with EGS I&T Test Data Coordinator.
- Complete monthly metrics and test matrix update.

2. FINANCIAL/CONTRACTUAL INFORMATION

**This Section
Has Been Removed
Due to Proprietary Content.**